

RAW SEQUENCE LISTING DATE: 08/09/2004 TIME: 12:17:31 PATENT APPLICATION: US/10/602,045

Input Set : N:\Crf3\RULE60\10602045.RAW.txt Output Set: N:\CRF4\08092004\J602045.raw

1 <110> APPLICANT: Hanna, Michelle 2 <120> TITLE OF INVENTION: Molecular Detection Systems Utilizing Reiterative Oligonucleotide Synthesis 4 <130> FILE REFERENCE: 2072.0010000 5 <140> CURRENT APPLICATION NUMBER: 10/602,045 6 <141> CURRENT FILING DATE: 2003-06-24 7 <150> PRIOR APPLICATION NUMBER: US/09/984,664 8 <151> PRIOR FILING DATE: 2001-10-30 9 <160> NUMBER OF SEQ ID NOS: 17 10 <170> SOFTWARE: PatentIn version 3.0 12 <210> SEO ID NO: 1 13 <211> LENGTH: 30 14 <212> TYPE: DNA 15 <213> ORGANISM: Artificial Sequence 16 <220> FEATURE: 17 <223> OTHER INFORMATION: methylated DNA template W--> 18 <221> NAME/KEY: misc feature 19 <222> LOCATION: (2)..(2) 20 <223> OTHER INFORMATION: methylation W--> 21 <221> misc feature 22 <222> LOCATION: (10)..(10) 23 <223> OTHER INFORMATION: methylation W--> 24 <221> misc feature 25 <222> LOCATION: (26)..(26)

30

ccgcccaaac gggtccggag cgactcgtca 28

30 <210> SEQ ID NO: 2 31 <211> LENGTH: 30

32 <212> TYPE: DNA

33 <213> ORGANISM: Artificial Sequence

26 <223> OTHER INFORMATION: methylation

34 <220> FEATURE:

W--> 27 < 400 > 1

35 <223> OTHER INFORMATION: deaminated methylated DNA

W--> 36 <221> NAME/KEY: misc_feature 37 <222> LOCATION: (1)..(1)

38 <223> OTHER INFORMATION: n is uracil .

W--> 39 <221> misc feature

40 <222> LOCATION: (4)..(6)

41 <223> OTHER INFORMATION: n is uracil

W--> 42 <221> misc feature

43 <222> LOCATION: (15)..(16)

44 <223> OTHER INFORMATION: n is uracil

W--> 45 <221> misc feature

RAW SEQUENCE LISTING DATE: 08/09/2004 PATENT APPLICATION: US/10/602,045 TIME: 12:17:31

Input Set : N:\Crf3\RULE60\10602045.RAW.txt
Output Set: N:\CRF4\08092004\J602045.raw

```
46 <222> LOCATION: (21)..(21)
     47 <223> OTHER INFORMATION: n is uracil
W--> 48 <221> misc feature
     49 <222> LOCATION: (24)..(24)
     50 <223> OTHER INFORMATION: n is uracil
W--> 51 <221> misc feature
     52 <222> LOCATION: (29)..(29)
     53 <223> OTHER INFORMATION: n is uracil
W--> 54 <400> 2
             . ncgnnnaaac gggtnnggaa ngantcgtna
                                                                                      30
W--> 55
     57 <210> SEQ ID NO: 3
     58 <211> LENGTH: 30
     59 <212> TYPE: DNA
     60 <213> ORGANISM: Artificial Sequence
     61 <220> FEATURE:
     62 <223> OTHER INFORMATION: deaminated unmethylated DNA
W--> 63 <221> NAME/KEY: misc feature
     64 <222> LOCATION: (1)..(2)
     65 <223> OTHER INFORMATION: n is uracil
W--> 66 <221> misc feature
     67 <222> LOCATION: (4)..(6)
     68 <223> OTHER INFORMATION: n is uracil
W--> 69 <221> misc feature
     70 <222> LOCATION: (10)..(10)
     71 <223> OTHER INFORMATION: n is uracil
W--> 72 <221> misc feature
     73 <222> LOCATION: (15)..(16)
     74 <223> OTHER INFORMATION: n is uracil
W--> 75 <221> misc feature
     76 <222> LOCATION: (21)..(21)
     77 <223> OTHER INFORMATION: n is uracil
W--> 78 <221> misc feature
     79 <222> LOCATION: (24)..(24)
     80 <223> OTHER INFORMATION: n is uracil
W--> 81 <221> misc feature
     82 <222> LOCATION: (26) ...(26)
     83 <223> OTHER INFORMATION: n is uracil
W--> 84 <221> misc feature
     85 <222> LOCATION: (29)..(29)
     86 <223> OTHER INFORMATION: n is uracil
W--> 87 <400> 3
                                                                                      30
88 <--W
              nngnnnaaan gggtnnggag ngantngtna
     90 <210> SEQ ID NO: 4
     91 <211> LENGTH: 30
     92 <212> TYPE: DNA
     93 <213> ORGANISM: Artificial Sequence
     94 <220> FEATURE:
```

W--> 96 <221> NAME/KEY: misc feature

95 <223> OTHER INFORMATION: deaminated methylated DNA

DATE: 08/09/2004 RAW SEQUENCE LISTING TIME: 12:17:31 PATENT APPLICATION: US/10/602,045

Input Set : N:\Crf3\RULE60\10602045.RAW.txt Output Set: N:\CRF4\08092004\J602045.raw

97 <222> LOCATION: (1)..(1) 98 <223> OTHER INFORMATION: n is uracil W--> 99 <221> misc_feature 100 <222> LOCATION: (2)..(2) 101 <223> OTHER INFORMATION: methylation W--> 102 <221> misc feature 103 <222> LOCATION: (4)..(6) 104 <223> OTHER INFORMATION: n is uracil W--> 105 <221> misc feature 106 <222> LOCATION: (10)..(10) 107 <223> OTHER INFORMATION: methylation W--> 108 <221> misc feature 109 <222> LOCATION: (15)..(16) 110 <223> OTHER INFORMATION: n is uracil W--> 111 <221> misc feature 112 <222> LOCATION: (24)..(24) 113 <223> OTHER INFORMATION: n is uracil W--> 114 <221> misc feature 115 <222> LOCATION: (26)..(26) 116 <223> OTHER INFORMATION: n is uracil W--> 117 <221> misc feature 118 <222> LOCATION: (26)..(26) 119 <223> OTHER INFORMATION: methylation W--> 120 <221> misc feature 121 <222> LOCATION: (29)..(29) 122 <223> OTHER INFORMATION: n is uracil W--> 123 < 400 > 4W--> 124 ncgnnnaaac gggtnnggaa cgantngtna 126 <210> SEQ ID NO: 5 127 <211> LENGTH: 30 128 <212> TYPE: DNA 129 <213> ORGANISM: Artificial Sequence 130 <220> FEATURE: 131 <223> OTHER INFORMATION: deaminated unmethylated DNA

30

- W--> 132 <221> NAME/KEY: misc feature
 - 133 <222> LOCATION: (1)..(2)
 - 134 <223> OTHER INFORMATION: n is uracil
- W--> 135 <221> misc feature
 - 136 <222> LOCATION: (4)..(6)
 - 137 <223> OTHER INFORMATION: n is uracil
- W--> 138 <221> misc feature
 - 139 <222> LOCATION: (10)..(10)
 - 140 <223> OTHER INFORMATION: n is uracil
- W--> 141 <221> misc feature
 - 142 <222> LOCATION: (15)..(16)
 - 143 <223> OTHER INFORMATION: n is uracil
- W--> 144 <221> misc feature
 - 145 <222> LOCATION: (21)..(21)
 - 146 <223> OTHER INFORMATION: n is uracil

RAW SEQUENCE LISTING DATE: 08/09/2004 PATENT APPLICATION: US/10/602,045 TIME: 12:17:31

Input Set : N:\Crf3\RULE60\10602045.RAW.txt
Output Set: N:\CRF4\08092004\J602045.raw

```
148 <222> LOCATION: (24)..(24)
     149 <223> OTHER INFORMATION: n is uracil
W--> 150 <221> misc feature
     151 <222> LOCATION: (26)..(26)
     152 <223> OTHER INFORMATION: n is uracil
W--> 153 <221> misc feature
     154 <222> LOCATION: (29)..(29)
     155 <223> OTHER INFORMATION: n is uracil
W--> 156 <400> 5
                                                                                       30
W--> 157
               nngnnnaagn gggtnnggaa ngantngtna
     159 <210> SEQ ID NO: 6
     160 <211> LENGTH: 30
     161 <212> TYPE: DNA
     162 <213> ORGANISM: Artificial Sequence
     163 <220> FEATURE:
     164 <223> OTHER INFORMATION: deaminated target DNA
W--> 165 <221> NAME/KEY: misc feature
     166 <222> LOCATION: (1)..(1)
     167 <223> OTHER INFORMATION: n is uracil
W--> 168 <221> misc feature
     169 <222> LOCATION: (1)..(1)
     170 <223> OTHER INFORMATION: methylation
W--> 171 <221> misc feature
     172 <222> LOCATION: (4)..(6)
     173 <223> OTHER INFORMATION: n is uracil
W--> 174 <221> misc feature
     175 <222> LOCATION: (9)..(9)
     176 <223> OTHER INFORMATION: methylation
W--> 177 <221> misc feature
     178 <222> LOCATION: (15)..(16)
     179 <223> OTHER INFORMATION: n is uracil
W--> 180 <221> misc feature
     181 <222> LOCATION: (21)..(21)
     182 <223> OTHER INFORMATION: n is uracil
W--> 183 <221> misc feature
     184 <222> LOCATION: (24)..(24)
     185 <223> OTHER INFORMATION: n is uracil
W--> 186 <221> misc feature
     187 <222> LOCATION: (25)..(25)
     188 <223> OTHER INFORMATION: methylation
W--> 189 <221> misc feature
     190 <222> LOCATION: (29)..(29)
     191 <223> OTHER INFORMATION: n is uracil
W--> 192 <400> 6
                                                                                       30
W--> 193
               ncgnnnaaac gggtnnggag ngantcgtna
     195 <210> SEQ ID NO: 7
     196 <211> LENGTH: 23
```

197 <212> TYPE: DNA

W--> 147 <221> misc feature

DATE: 08/09/2004

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/602,045 TIME: 12:17:31

Input Set : N:\Crf3\RULE60\10602045.RAW.txt
Output Set: N:\CRF4\08092004\J602045.raw

198 <213> ORGANISM: Artificial Sequence 199 <220> FEATURE: 200 <223> OTHER INFORMATION: target site probe W--> 201 <221> NAME/KEY: misc feature 202 <222> LOCATION: (10),.(23) 203 <223> OTHER INFORMATION: n is any nucleotide of a, g, t or c W--> 204 <221> misc feature 205 <222> LOCATION: (10)..(23) 206 <223> OTHER INFORMATION: nucleotide residues may be between 8 and 14 n's in length W--> 207 < 400 > 723 W--> 208 taacgaatcn nnnnnnnnn nnn 210 <210> SEQ ID NO: 8 211 <211> LENGTH: 10 212 <212> TYPE: DNA 213 <213 > ORGANISM: Artificial Sequence 214 <220> FEATURE: 215 <223> OTHER INFORMATION: target site probe 216 <400> SEQUENCE: 8 10 gtttaaacga 219 <210> SEQ ID NO: 9 220 <211> LENGTH: 21 221 <212> TYPE: DNA 222 <213> ORGANISM: Artificial Sequence 223 <220> FEATURE: 224 <223> OTHER INFORMATION: template strand 225 <400> SEQUENCE: 9 21 cttctatagt gtcacctaaa t 228 <210> SEQ ID NO: 10 229 <211> LENGTH: 21 230 <212> TYPE: DNA 231 <213> ORGANISM: Artificial Sequence 232 <220> FEATURE: 233 <223> OTHER INFORMATION: nontemplate strand 234 <400> SEQUENCE: 10 21 atttaggtga cactatagaa g 237 <210> SEO ID NO: 11 238 <211> LENGTH: 12 239 <212> TYPE: DNA 240 <213> ORGANISM: Artificial Sequence 241 <220> FEATURE: 242 <223> OTHER INFORMATION: telomerase capture probe 243 <400> SEQUENCE: 11 12 gggttagggt ta 246 <210> SEQ ID NO: 12 247 <211> LENGTH: 30 248 <212> TYPE: DNA 249 <213> ORGANISM: Artificial Sequence 250 <220> FEATURE: 251 <223> OTHER INFORMATION: telomerase capture probe

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 08/09/2004 PATENT APPLICATION: US/10/602,045 TIME: 12:17:32

Input Set : N:\Crf3\RULE60\10602045.RAW.txt
Output Set: N:\CRF4\08092004\J602045.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:2; N Pos. 1,4,5,6,15,16,21,24,29
Seq#:3; N Pos. 1,2,4,5,6,10,15,16,21,24,26,29
Seq#:4; N Pos. 1,4,5,6,15,16,24,26,29
Seq#:5; N Pos. 1,2,4,5,6,10,15,16,21,24,26,29
Seq#:6; N Pos. 1,4,5,6,15,16,21,24,29
Seq#:7; N Pos. 10,11,12,13,14,15,16,17,18,19,20,21,22,23
Seq#:14; N Pos. 1,7,13,19

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 2
Seq#:7; Line(s) 206

VERIFICATION SUMMARYDATE: 08/09/2004PATENT APPLICATION: US/10/602,045TIME: 12:17:32

Input Set : N:\Crf3\RULE60\10602045.RAW.txt
Output Set: N:\CRF4\08092004\J602045.raw

```
L:18 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:21 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:24 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:27 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:36 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:39 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:42 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:45 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:48 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:51 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:54 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:55 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0
L:63 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:66 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:69 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:72 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:75 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:78 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:81 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:84 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:87 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:88 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0
L:96 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:99 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:102 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:105 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:108 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:111 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:114 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:117 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:120 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:123 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:124 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0
L:132 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:135 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:5
L:138 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:5
L:141 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:5
L:144 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:5
L:147~M:258~W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:5
L:150 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:5
L:153 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:5
L:156 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:5
L:157 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0
L:165 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:168 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:6
L:171 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:6
L:174 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:6
L:177 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:6
```

VERIFICATION SUMMARY

DATE: 08/09/2004 TIME: 12:17:32 PATENT APPLICATION: US/10/602,045

Input Set : N:\Crf3\RULE60\10602045.RAW.txt Output Set: N:\CRF4\08092004\J602045.raw

L:180 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:6 L:183 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:6 L:186 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:6 L:189 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:6 L:192 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:6 L:193 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0 L:201 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order! L:204 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7 L:207 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7 L:208 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0 L:270 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order! L:273 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:14 L:276 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:14 L:279 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:14 L:282 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:14 L:283 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0